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POST-WAR SAVINGS IN THE U.S.A.

Mr. Steindl's article in the BULLETIN of the 2nd September, 1944, dealt with :

1. The probable post-war level of real income in the U.S.A.
2. Deduced therefrom, the probable level of personal and corporate savings.
3. The estimated amount of ' piled-up demand ' and the probable timing thereof.

By comparing the second deduction with the third, he deduces that probably the whole of the piled-up demand would have been satisfied by 1948, (or perhaps a little later if we allow for some prolongation of the war), and that there will then ensue ' a critical problem of finding an outlet for savings ' which are likely to exceed by $10 to $15 billion per annum the maximum probable level of private investment. Unless the budget deficit plus the export surplus reaches this level, disastrous trade depression and unemployment will ensue.

No dissent is offered to Mr. Steindl's estimates of the extent of piled-up demand, nor—given his assumptions about the maintenance of controls and the avoidance of price increases—to his estimates about the timing thereof. Nor is any substantial change suggested in his estimate of the post-war level of real national income. It is suggested, however, that his method of deducing savings from real income is quite inapplicable to this particular problem. He has made use of the savings-income relationship of the years 1929—40, a linear relationship with a marginal propensity to save of 0.24. This is a short-period relationship, fully applicable within its own sphere. But when we are looking ahead into the post-war period, we must use the long-period relationship between income and savings, which is entirely different.

A priori consideration will show that it is quite impossible that a marginal propensity to save of 0.24, or anything like it, can be maintained over a long period. This conclusion is confirmed by the data given in the following tables and diagram.

TABLE I.

National Income and Net Capital Formation per head of Labour Force.

Period	Labour Force Millions	$ of 1925—34 Purchasing Power per head of Labour Force	
		Income	Net Capital Formation
1879—1888	19.5	721	84
1884—1893	22.5	744	103
1889—1898	25.4	770	115
1894—1903	28.3	853	115
1899—1908	32.1	934	118
1904—1913	36.3	986	123
1909—1918	39.4	1.060	137
1914—1923	41.9	1,210	138
1919—1928	45.1	1,412	142

NOTES ON TABLE (opposite] AND DIAGRAM (p. 100) :

All data converted to 1925—34 prices (average of prices during this decade about 7½ per cent. below 1929) to facilitate international comparisons.

Dr. Kuznets's data are as given in ' National Income and Its Composition,' pages 269 and 814, and Department of Commerce data from ' Survey of Current Business,' May, 1942.

Net capital formation for periods prior to 1919, from Dr. Kuznets, National Bureau of Economic Research, Occasional Paper 6, converted from 1929 to 1925—34 prices.

Labour force up to 1914 estimated from Census data ; 1914—20 and 1941—43 from National Bureau of Economic Research, Occasional Paper 14 ; 1921—28 from National Bureau of Economic Research, Occasional Paper 2 ; 1929—40 from ' Survey of Current Business,' April 1943. Both during the last war and the present war, all persons in the Forces beyond the usual peace-time level are excluded from the Labour Force Statistics.

Real national income 1879—1918, National Bureau of Economic Research, Occasional Paper 6 ; 1919—28 Dr. Kuznets reduced by 4½ per cent to equate to Commerce Department in 1929 ; 1929—38 Commerce Department, gross product with deductions for business taxation, depreciation, etc., but before making other allowance for inventory re-valuation. Converted to 1929 prices at Dr. Kuznets's ratios. 1939—41, Dr. Kuznets's estimate of trend of real income, National Bureau

TABLE II.

Saving and Income in the U.S.A., 1919—1941.

Year	Private Net Capital Formation			Deficit			Labour Force Millions	$ of 1925—34 Purchasing Power per Head of Labour Force.	
$ Billions	At Current Prices.		At 1925—34 Prices	Increase in Public Debt Less Increase in Security Assets (Kuznets).	Govt. Expenditure on Goods Services and Transfer Incomes Less Taxes. (Department of Commerce $ billions.	At 1925—34 Prices (1919—1928 Kuznets' Data + 1.3 Billion).		Income	Private Net Capital Formation — Deficit.
	Kuznets.	Department of Commerce	Kuznets to 1935 Thence Department of Commerce					$ billions	$ millions
1919	8.8		6.3	2.8		3.3	41.6	1,193	228
1920	10.6		6.5	—1.1		0.1	42.0	1,213	157
1921	2.2		1.8	0.2		1.3	43.2	1,147	72
1922	3.2		2.6	0.4		1.6	43.8	1,223	91
1923	7.5		6.6	—0.5		0.7	44.7	1,391	163
1924	4.5		3.9	—0.3		0.9	45.7	1,380	105
1925	7.7		6.8	0		1.2	46.4	1,403	172
1926	7.6		6.6	—0.6		0.6	47.2	1,472	152
1927	6.4		5.9	—0.5		0.7	47.9	1,465	138
1928	5.5		5.0	0		1.2	48.7	1,470	127
1929	8.2	10.8	7.6	—0.4	1.5	1.4	49.6	1,558	181
1930	2.0	5.2	1.9	0.1	2.3	2.2	50.2	1,380	82
1931	—1.9	—0.3	—2.1	1.6	4.6	4.9	50.7	1,221	55
1932	—5.4	—4.0	—6.6	2.2	3.3	4.0	51.2	963	—51
1933	—4.2	—2.7	—5.4	0.7	1.9	2.4	51.7	970	—58
1934	—3.4	—0.6	—4.3	1.4	2.7	3.1	52.2	1,077	—23
1935	0	0.8	0	2.5	3.1	3.4	52.7	1,162	64
1936	4.0	3.8	3.6	3.6	3.0	3.3	53.3	1,338	129
1937	5.3	5.5	5.1	0.6	1.5	1.6	53.8	1,392	124
1938	1.7	1.5	1.6	1.4	3.3	3.7	54.4	1,339	97
1939		4.6	5.2		3.1	3.5	54.9	1,471	158
1940		8.1	9.2		2.0	2.3	55.2	1,606	208
1941		12.1	12.4		3.2	3.3	54.4	1,890	289

of Economic Research, Occasional Paper 17, page 52, using 'Assumption A.'

Dr. Kuznets and the Department of Commerce make divergent estimates of private net capital formation for the years 1929—34, but from 1935—38 they are in fair agreement. In estimating the amount of savings absorbed by deficits, the divergence is wider. Dr. Kuznets has only taken into account net changes in public debt and in public holdings of securities, whereas the Department of Commerce claim to have made a wider survey of governmental transactions.

In the first table giving decennial averages, Dr. Kuznets's data of net capital formation are given inclusive of the net value of construction by public authorities. They take no account of deficits incurred for any other purposes, or of surpluses.

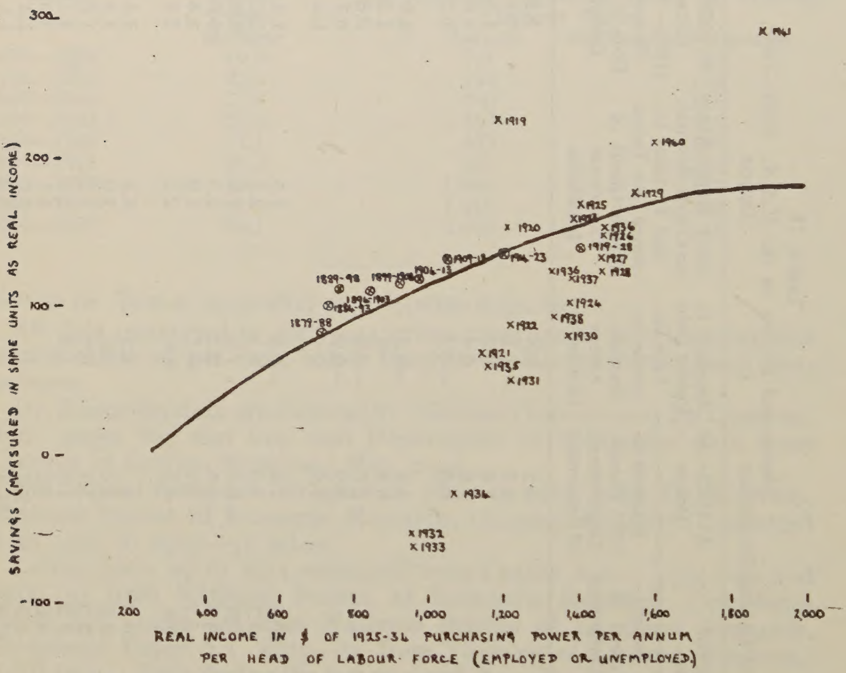

DIAGRAM I. Long-run relation of income and savings.

The diagram makes it clear that the savings-income relationship is, in the short period, a steeply inclined straight line. In time, however, this line is tending to move to the right (i.e., the amount saved at any given level of real income tends to fall), and the long period relationship is seen to be a very gently inclined curve.

Moreover, the long period data are found to accord quite closely to a curve obtained from experience in other countries.

When we make these comparisons over a long period it is clearly desirable to eliminate the effect of changes in the size of the labour force, by expressing both incomes and savings per head.

People's reactions to a change in real income largely depend upon whether they consider it temporary or permanent. In 1932—33, for instance, real income per head of the labour force was about at the 1900 level. Yet in 1900 people made substantial savings, in 1932—33 a substantial net dis-saving. If people in 1932 had believed that real income was likely to remain permanently at that level, they would have, in time, altered their habits of life and a positive saving would have re-emerged.

In the same way occasional years of sudden increase in income lead to savings above those expected from the normal relationship. This was the case in 1940 and 1941. If real income per head of the labour force is sustained for a few years at the 1941 level, it is safe to predict that, as in the case of past advances of real income, the short-period curve will shift to the right, and the general average of savings will once again be about at the level indicated by the long-period curve.

Similar abnormally high savings were obesrved in 1919, and to a less extent in 1920. In 1919 these were largely 'forced savings' as a result of high prices. Professor Robertson pointed out in 'Banking Policy and the Price Level' that it might sometimes be the case that rapid rises in prices performed a useful economic function, when it was desirable to transfer to investment resources which people would have preferred to have consumed. Post-war maintenance of restrictions upon certain investment and possibly upon some consumption activities is, of course, the alternative.

The curve, from the experience of other countries, is derived from that given in 'Economics of 1960' (diagram at end of book). The data there, however, are given on a basis of real income *per hour* rather than per year, and have to be corrected by means of a relationship between real income per hour and the number of hours worked per year, established by experience of a number of countries.

TABLE III.

Long-Term Relation between Savings and Income.

Per Hour		Probable Hours Per Year at Indicated Level of Income	Per Year	
Income	Savings		Income	Savings
.08	.0012	3,386	271	4
.16	.0140	3,022	483	42
.24	.0260	2,736	652	71
.32	.0368	2,592	830	95
.40	.0468	2,498	1,000	117
.48	.0556	2,416	1,160	134
,56	.0624	2,344	1,313	146
.64	.0696	2,295	1,469	160
.72	.0756	2,246	1,618	170
.80	’0800	2,205	1,767	177
.88	.0832	2,168	1,909	180
.96	.0856	2,138	2,052	183

The curve drawn in 'Economics of 1960' did not rely to any great extent upon American data. Most of the data quoted above were not available in 1940—41 when the book was written. Numerous data are available for the lower ranges of real income. In the higher ranges of real income data are available for Canada and Australia (which lie below the curve), Great Britain (above the curve 1900—1910, and below since 1924), New Zealand (precisely on the curve both for 1925—30 and 1934—37), Switzerland, Sweden and Holland (above the curve). No high precision is claimed for the curve in the high income regions, but it does given an approximate summarisation of the international data, and is found to be fairly closely confirmed by the American data.

Mr. Steindl puts the post-war labour force at five millions above the 1943 level. The 1943 labour force (exclusive of Forces) was 53.1 millions and his post-war figure may therefore be taken at 58.1 millions. Real national income in 1943 is estimated on the basis of Dr. Kuznets's Occasional Paper 17, at $123.7 billion at 1925—34 prices, as compared with $80.7 billion in 1939. Mr. Steindl estimates that post-war real income will be lower by some $10 billion (measured at 1943 prices), or, say, a post-war real income of $115 billion at 1925—34 prices, or $1,979 real income per head of the labour force.

The long-period relationship indicates that, at this level of real income, the total net savings, individual and corporate, will be about $181 per head of the labour force, or about $10.5 billion at 1925—34 prices.

It is not necessarily to be expected that private net capital formation plus public borrowing on the normal scale will precisely and steadily attain this figure. But, on the other hand, the difficulties of keeping the situation in adjustment should be vastly less than Mr. Steindl anticipates.

A considered alternative estimate (amongst the many now in circulation) of post-war real net national income in U.S.A. is the carefully prepared calculation by Mr. E. E. Hagen and Mrs. Kirkpatrick (' American Economic Review,' September, 1944). They estimated net national income in 1950 at $125 billion in 1939 prices, to a labour force of 60 millions (of which two millions would be members of the armed forces, and two millions would represent the average level of unemployment). This constitutes, at 1925—34 prices, $2,360 per head of the labour force per annum, a considerably higher figure than Mr. Steindl's. The Authors of the estimate admit however that, after carefully analysing other trends, they finally had to make a rough assumption on a very important factor ; the percentage of the labour force (other than agricultural and governmental workers) who will at that date be found in ' Industry Group A.' Industry Group A consists of mining, manufacturing, railway transportation, electric power and gas utilities and construction. (The word ' construction ' is apparently only intended to cover fairly large-scale contract construction, and excludes the minor building and repair work which occupy so large a proportion of the men in the building trade). In these industries real product per man-hour has been increasing with great rapidity, and such increase is expected to continue. In other activities (commerce, services, etc.), real product per man-hour is rising much more slowly. The proportion of workers in Group A, therefore, is an important factor determining the level of aggregate real income. This proportion fell from 50 per cent in 1923 to 45 per cent in 1929, and 43 per cent in 1940.

The Authors somewhat optimistically raised this proportion to 45 per cent by 1950. But a study of the rapidly increasing trend of demand towards services in a wealthy community suggests that by 1950 the proportion may be as low as 33 per cent. (During the 1920's this proportion fell on the average nearly one point per annum.) This would reduce their estimate of aggregate real income by about 5½ per cent.

It is possible also that the size of the post-war labour force has been over-estimated. For the ratios of labour force and total population in each age group, Mr. Hagen and Mrs. Kirkpatrick carefully extrapolated the separate trends for farm and non-farm population. Apart from a tendency towards longer schooling, they find these trends to show an increasing proportion of females joining the labour force at most ages, and a stationary proportion of males. But an analysis prepared by Professor Paul Douglas and Erica Schoenberg (' Journal of Political Economy,' February, 1937), of the proportions of males and females of given ages who entered the labour force in cities at different real income levels, showed a marked negative correlation between real income and the proportion of the population seeking work, for females at practically all ages, and for males below twenty-five and above fifty-five. These results also accorded closely with an historical analysis of changes in the size of the labour force, as compared with changes in real income levels, which Professor Douglas had prepared. The proportions of females entering the labour force are, of course, markedly different in rural and urban communities, and the upward trend in female employment in the U.S.A. hitherto is probably explainable in terms of increased urbanisation. Whether the transfer of rural population to the cities will continue at a sufficient rate to counteract the effects of rising average real income remains to be examined.

The Bureau of Industry, COLIN CLARK,
Brisbane, Queensland, Australia. *Director.*

LONG-RUN CHANGES IN THE PROPENSITY TO SAVE

A REPLY

1. I am very grateful to Mr. Colin Clark for drawing attention to an obviously vulnerable point in my analysis of the post-war prospects for full employment in the United States.

To begin with, I accept in principle his chief point of criticism : I have estimated the rate of saving after the transition period on the basis of a short-term relation between income and saving, while experience stretching over longer periods shows that this relation has tended to shift in the past. But it does not necessarily follow that it will shift again ; and I must stress that my estimate refers only to the years immediately following the transition period. Admittedly, however, I shall have to base myself on a long-run analysis in order to establish my point fully.

When it comes to Mr. Colin Clark's own estimates of post-war saving I disagree. His long-run relation of income and savings is based on data from a multitude of countries in different stages of industrial development, with different tax structures, income distributions, social structures etc. The device of counting income and savings per head of the labour force is admirable as far as workers' savings are concerned ; but why should capitalists' savings, and among them especially corporate savings, be considered in these terms ? Unless we reject the view that capitalists' saving is an important part of total saving, and that income distribution is an important factor determining saving, there is no theoretical meaning in Mr. Clark's correlation.

Where I disagree also is in the explanation of the historical trend of the propensity to save. The short-term relation, Mr. Clark says, has shifted to the right, because people have adjusted their consumption to the long-term changes in real income. That may be so, but it does not explain the American data which show that the percentage saved of the national income has, in fact, *decreased* over long periods. That surely requires special explanation.

2. I propose to give now my own explanation of the trend of savings in the past. Mr. S. Kuznets' figures of net capital formation are taken as an indication of the rate of saving. According to these figures, the percentage saved out of the national income increased between the decade 1879—1888 and the decade 1889—1898. From the latter period it declined up to the world war, rose a little during the war, declined in the twenties and fell sharply in the thirties (see Table 1, col. 6). Net capital formation as given by S. Kuznets, it is true, cannot be regarded as an indication of private saving without qualification. It includes public construction, even if financed out of revenue ; on the other hand it does not include government deficits.

TABLE I.

The Trend of Savings in the United States.

	Fixed Business Capital in 1880 Dollars*		Net Capital Formation in 1929 Dollars		Ratio 4÷2	Net Capital Formation as a Ratio of National Income	
	$ millions (1)	(2)	$millions (3)	(4)	(5)	In current Prices % (6)	In 1929 Dollars % (7)
1879—1888	12 230	61	1,766	56	92	10.4	11.6
1884—1893	16,550	83	2,524	80	97	11.7	14.0
1889—1898	20,010	100	3,145	100	100	12.0	14.8
1894—1903	23,900	119	3,509	111	94	11.6	13.4
1899—1908	30,720	153	4,110	131	86	11.3	12.7
1904—1913	40,110	205	4,808	153	75	11.0	12.4
1909—1918	49,530	248	5,817	185	75	11.3	12.9
1914—1923	58,130	291	6,250	199	69	11.6	11.6
1919—1928						10.8	10.1
1924—1933						6.6	5.8
1929—1938						3.1	2.3

* Value of capital at the *end of preceding year*. As P. Douglas' series starts with 1880 I had to assume a plausible figure for end of 1878 and 1879.

Sources:—Col. (1): P. Douglas, *The Theory of Wages*, p. 465.

Col. (3), (6) and (7): S. Kuznets, Uses of National Income in Peace and War (*National Bureau of Economic Research, Occasional Paper No. 6*) p. 31, These qualifications are important for the modern period, especially the thirties. For earlier periods government deficits and public construction are not easy to estimate, but it is altogether unlikely that this factor should substantially affect the trend in the savings ratio up to the world war.[1] The puzzling thing, moreover, is not only that the saving ratio declined since the nineties, but that it *did not increase* with the increasing real income per head.

It is perhaps best to start with an explanation of the fall in the saving ratio in the thirties (which remains considerable after allowing for government deficits). Mr. Kuznets has shown that if we deduct corporate and other entrepreneurial savings from the total, the remainder of private savings, in proportion to income, has increased rather than decreased from the twenties to the thirties.[2] The simplest explanation of this seems to be that *capitalists' savings*, and more particularly entrepreneurs' savings are mainly responsible for the fall in the savings ratio.

Making use of a hypothesis of Mr. M. Kalecki[3] I am going to assume that capitalists' consumption can be explained as the sum of two parts: (*a*) a certain percentage on the capital owned by the capitalist, which is liable to very slow changes in time, and (*b*) a certain proportion of the profits gained in the respective period over and above the basic consumption mentioned under (*a*). In other words capitalists' consumption consists of a fixed part, expressed as a percentage of capital, and a variable part depending on the rate of profit. The hypothesis rests on the plausible idea that the basic standard of living of capitalists depends on their wealth. The capital owned is the measure of what a man can afford; in addition, he will consume somewhat more if his profits are higher. The basic consumption as a proportion of capital is, of course, liable to change, but we may assume that these changes are very slow. They will depend partly on the process of concentration or deconcentration of the ownership of wealth—because it is clear that for small capitalists the basic rate of consumption will be quite different from what it is for big capitalists—and partly on the adaptation of the consumption rate to the development of the rate of profit over long periods.

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[1] In order to get a correct estimate of private savings we should have to deduct *net* public construction from the net capital formation as given by S. Kuznets, and add government deficits. I think it unlikely that public construction has declined in relative importance, or that government deficits increased, relatively to national income, in the period concerned. Thus the declining trend in the savings ratio could not be explained by these factors.

[2] *The National Income* 1919—1938, p. 281. The relevant figures are reproduced below.

	Net private saving exclusive of corporate saving but inclusive of other entrepreneurial saving		*Net private saving exclusive of corporate saving and other entrepreneurial saving*	
	$billion	ratio of income payments	$ billion	ratio of income payments
1919—28	5.4	7.7%	3.9	5.7%
1929—38	3.9	5.8%	4.5	7.0%

Mr. Kuznets' estimate of saving is *net* of the increase in consumers' debt and it under-estimates the government deficit. But a correction for these factors would not reverse his conclusion.

[3] *Studies in Economic Dynamics*, p. 52 seq.

We can describe the relation algebraically if we call capitalists' saving, as a percentage of capital, s, the rate of profit p, the basic rate of consumption, in per cent of capital, α, and the proportion of the 'excess' profits saved μ:

$$s = (p - \alpha)\ \mu$$

It can be seen easily from the equation that if the rate of profit increases in a certain proportion, saving will increase in even greater proportion, that is, the proportion of total capitalist's income saved will increase.

This can easily be used to explain the strong fall in the savings ratio in the thirties, which could by no means be explained by the fall in the *share* of capitalist's income in the national income, this fall being too moderate to account for the decline in savings. As we can see from Table II, the rate of profit has sharply decreased from the twenties to the thirties, and this would lead us to expect a fall in capitalists' average propensity to save, if α does not adjust itself quickly enough, which it is very plausible to assume.

TABLE II.

Profit Rate of U.S. Corporations

	Capital Assets at Current Replacement Cost	Corporate Profits	Corporate Profits as Per cent of Capital Assets
	$ billions	$ billions	%
1919—1923	97.9	4.2	4.3
1924—1928	112.5	5.7	5.1
1929—1933	117.1	2.3	2.0
1934—1938	108.8	2.4	2.2

Sources:—See Table III.

We can apply a similar explanation to the trend of the saving ratio since 1889—98, if we can show that there was a steady decline of the rate of profit in the period concerned. In the case of manufacturing it has been shown that such a decline of the profit rate must have taken place since 1899.[1] Instead of trying to demonstrate that this decline has been general also outside manufacturing industries, I shall attempt a slightly more direct proof of my thesis.

This will be based on two main assumptions:

(1) That capitalists' saving has been either a constant or a decreasing proportion of all net saving in the period since 1889—98.

(2) That net saving, as a proportion of the value of business capital, has decreased in the same period (the period in which we observe a fall in the saving-income ratio).

It follows, if the two assumptions are right, that capitalists' saving, as a proportion of their capital, has decreased in the period concerned. This can be most easily explained, in terms of the above theory, as a consequence of a falling rate of profit. The objection that α, the basic standard of capitalists' consumption, should have adjusted itself to the decline in the rate of profit is easily met, if we can assume a continuous decline of the rate of profit and a considerable lag in the adjustment.

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[1] See M. Kalecki, 'A theory of long-run distribution of the product of industry,' *Oxford Economic Papers* No. 5, and *Studies in Economic Dynamics*, p. 29.

Now to assumption (1). It is unlikely that the ratio of saving to income of workers and salary earners (their *average* propensity to save) should have decreased. The increase in the level of real wages, and the rise of a class of salary earners, would lead us rather to expect an increased average propensity to save. Only urbanisation may have tended to lower the saving ratio, but this is at least offset by the other factors. The ratio of wages and salaries in the total income has most probably in the whole period not decreased.[1] It follows that workers' and salary earners' saving as a ratio of national income has not decreased, and as saving has been a declining proportion of national income in the period concerned, capitalists' share in total saving cannot therefore have increased.

Assumption (2) may be verified on the basis of the figures given by Professor P. Douglas for the amount of fixed capital in the United States in the years 1880 to 1922.[2] The estimates comprise fixed capital in manufacturing, steam railroads, street railways, telegraph, telephone, electric light and power, farm machinery and productive farm buildings. As the estimates are reduced to prices of 1880, an index of real capital can be computed (Table I, col. 2). Further, an index of net capital formation in constant prices (data of S. Kuznets) may be regarded as a sufficiently good index of private savings for the period concerned. The second index divided by the first gives an index of the ratio of savings to capital (Table I, col. 5).

The result bears out the assumption very well. Between 1879—88 and 1889—98 the ratio of savings to capital has increased, concurrently with the increase in the average ratio saved out of the national income. From then onwards up to the decade 1914—1923 the ratio of saving to capital has declined (except for a period of stability from 1904—13 to 1909—18). If the data are correct (and assumption (1) is accepted) the following would seem the most plausible explanation : Between 1879—1888 and 1889—1898 the increase in the ratio of saving to capital was due to an increase in the rate of profit, and/or to a possible concentration of capital. From the nineties to the world war the rate of profit steadily declined, and in this way brought about the fall in the savings ratio.

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[1] S. Kuznets reproduces the following figures (National Bureau of Economic Research, *Occasional Paper* No. 6, p. 38):

Percentage share of wages and salaries in national income.

(W. I. King)		(W. I. King)		(S. Kuznets)	
1870	*49.2*	1910	*54.5*	1919—23	*63.0*
1880	*51.8*	1909—18	*54.7*	1919—28	*63.1*
1890	*54.0*	1914—23	*57.2*	1924—33	*62.7*
1900	*48.7*	1919—23	*59.0*	1929—38	*64.0*
1910	*48.9*				

The first series (from King, *Wealth and Income of the People of the United States*) shows, it is true, a decrease between 1890 and 1900. As the data are for single years, this may be due to exceptional conditions in the census years. But even if a decline by 5% should have taken place, this would mean, as the saving ratio for these classes can hardly exceed 5%, a difference of 0.25% in the ratio of saving to national income, while the changes in the ratio which we are trying to explain are of a higher order of magnitude.

[2] *The Theory of Wages*, p. 463 seq.

An additional factor which may have *possibly* played a role is a certain degree of deconcentration of the ownership of industrial wealth owing to the spread of the joint-stock system.[1]

3. On the basis of the above long-term theory of saving it should be possible to make a new estimate of post-war savings. Ideally this would work as follows: we should divide savings into workers + salary earners saving, which we would estimate on the basis of a constant average propensity to save (taking the prosperous 'twenties as a basis); and into capitalists' saving which we should estimate on the basis of a correlation of profit rate and saving rate. As the division of total savings into the two parts is very difficult, I have to be content with the following approximation: I shall treat only corporate saving as capitalist saving, and shall estimate all personal savings on the basis of a given average propensity to save.

CORPORATE SAVING.

I use the data given by S. Fabricant,[2] for the value of (fixed) business capital of corporations in the years 1918 to 1935, and deflate them by S. Fabricant's index of the prices implicit in the book valuation (Table III). As a result we get the value of the capital in each year *at the replacement cost of* 1929. This I have inflated with an index of prices of capital goods, as given by S. Fabricant.. The result is a series giving the *current reproduction cost* of the capital assets in each year. I have then expressed both corporate profits and corporate saving as a percentage of these capital assets at current reproduction cost, and finally correlated these two series (Table III, col. 8 and 9 and the diagram). The following regression equation was obtained (where p are corporate profits, and s corporate savings, both expressed as percentage of capital):

$$s = 0.79p - 3.02 \qquad (r = 0.95)$$

The equation shows that corporate saving will be equal to zero, if corporate profits are about 3.8%. Of any excess above this profit rate nearly four-fifth are saved.

In using the above relation for a prediction of post-war corporate savings, I am quite aware of two facts: first that it is again a matter of extrapolation. Second, that the relation is again not necessarily stable in time. We have good reasons to assume, however, that the changes in time to which this relation is liable are very slow. They would mainly come about by an adaptation of the 'basic' rate of dividend (above calculated as 3.8%, and analagous in concept to the a mentioned on p. 106) to secular changes in the rate of profit. Now the very high rate of profit which, as will be shown below, will obtain in the years immediately following the transition period, will only be a temporary phenomenon; there is therefore no likelihood that it will influence the saving relation above calculated. As the relation is probably stable except over very

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[1] After the 'merger movement' at the turn of the century there was an extension of the public market for securities, and in the time up to the world war the habit of holding industrial securities in relatively small amounts developed among smaller wealth owners.

[2] *Capital Consumption and Adjustment*, New York 1938, p. 242, p. 237.

TABLE III.

Saving of Corporations in U.S.

Year	Book Value of Capital Assets of Corporations[1]	Price Index Implicit in the Book Valuation (1929 Prices =100)	Capital Assets at the Replacement Cost of 1929	Index of Prices of Capital Goods	Capital Assets at Current Replacement Cost	Corporate Profits	Corporate Savings	Corporate Profits	Corporate Savings
								In Percent of Capital Assets at Current Replacement Cost	
	$ Billions (1)	(2)	$ Billions (3)	(4)	$ Billions (5)	$ Billions (6)	$ Billions (7)	% (8)	% (9)
1919	59.5	64.9	91.6	110.5	101.1	3.90	1.00	3.86	0.99
1920	61.4	69.4	88.5	130.2	115.2	5.40	2.20	4.69	1.91
1921	66.3	74.6	89.0	102.4	90.8	3.71	0.71	4.08	0.78
1922	68.7	76.4	90.0	93.0	83.7	3.23	0.23	3.86	0.28
1923	74.2	77.5	96.0	103.5	98.7	4.77	0.97	4.83	0.99
1924	80.6	79.8	101.0	101.4	102.3	4.22	0.42	4.11	0.41
1925	89.8	81.7	110.0	99.5	109.5	5.23	0.83	4.78	0.76
1926	93.8	83.5	112.5	99.4	111.9	7.00	2.30	6.27	2.06
1927	100.2	85.2	117.5	99.2	116.5	5.66	0.56	4.86	0.48
1928	106.5	86.7	123.0	98.0	120.8	6.42	0.92	5.32	0.76
1929	112.0	87.8	128.0	100.0	128.0	7.80	1.50	6.10	1.17
1930	118.5	89.2	133.0	95.7	127.3	5.33	—0.67	4.17	—0.53
1931	123.1	89.8	137.0	88.7	121.8	1.50	—3.10	1.23	—2.54
1932	116.9	89.7	130.5	82.1	107.2	—1.80	—4.80	—1.68	—4.48
1933	112.5	89.4	126.0	80.5	101.4	—1.50	—4.00	—1.48	—3.94
1934	109.1	88.9	123.0	87.2	107.2	—0.30	—3.30	—0.28	—3.08
1935	105.4	88.9	119.0	88.4	105.2	1.70	—2.10	1.62	—2.00
1936	103.0	89.0	116.0	90.4	105.0	4.09	—0.71	3.90	—0.68
1937	101.0[2]	89.0[3]	114.0	98.5	112.3	3.50	—1.40	3.12	—1.25
1938	103.0[2]	89.0[3]	116.0	98.5	114.3	2.80	—0.70	2.45	—0.62
1939				97.8					

[1] At end of the year preceding to the given year.

[2] From *Statistics of Income*, adjusted to make comparable with Fabricant's figures.

[3] Assumed unchanged.

Sources:—S. Fabricant, *Capital, Consumption and Adjustment*, p. 237, 242.
Temporary National Economic Committee Monograph 37: Saving, Investment and National Income, p.,98.
S. Kuznets, *The National Income* 1919—1938, p. 216.

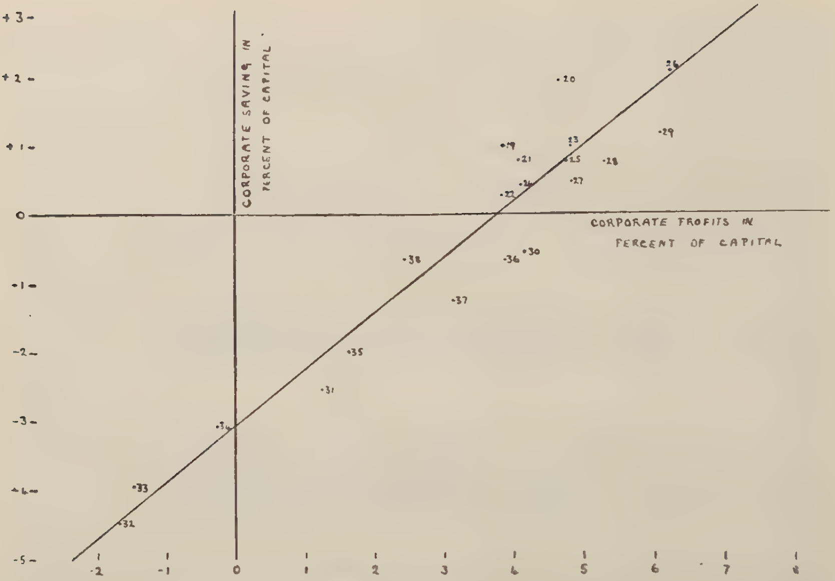

DIAGRAM II. Corporate profits and savings in % of capital 1919-38.

long periods, and as it is, I think, based on fairly sound economic assumptions, an extrapolation would seem justified.

I assumed (in my former article) that in the years immediately following the transition period national income will be at the level of 1943. Correspondingly I now assume that corporate profits *before* taxes will also be at the same level. Even if war production yielded higher profit margins than civilian production, we must expect that the decontrolling of prices, and the high use of productive capacity in the civilian sector will exert its influence in the opposite direction, and on balance the share of profits will probably be the same as in 1943. Profits *after* taxes were $9 billions in 1943, and excess profits taxes amounted to $7 billions.[1] If we assume excess profits taxes abolished, we obtain corporate profits after taxes of $16 billions (at 1943 prices).

The value of capital assets of corporations in the period in question can be estimated as follows: In 1938 it was 114.3 (Table III); the additions to capital between 1938 and 1941 and the consumption of capital in 1942 to 1945 more or less cancel out. The rise in reproduction cost can be calculated by linking an index of Kuznets[2] to the index given by Fabricant (Table III); this gives, on the basis 1929=100, an index of 113 for the first half of 1943, and, say, 115 for the year 1943. The present amount of capital assets of corporations, at reproduction cost of 1943, is therefore approximately $131 billions. To this must be added the additions which will be made during the transition period (inclusive of capital assets acquired from the Government); I put them tentatively at $20 to $25 billions. This gives in all capital assets of $150 to $155 billions (at reproduction cost of 1943). As we obtained a figure of $16 billions for corporate profits, the rate of corporate profits on this capital will thus be 10.3% to 10.6%, and the rate of corporate saving on capital, according to the regression equation, will be 5.1 to 5.4%. This yields a corporate saving of $7.9 billions to $8.1 billions (at 1943 prices).

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[1] In the fiscal year 1943—44, the E.P.T. yield increased to over $9 billions.

[2] *National Bureau of Economic Research, Occasional Paper, No. 17:* National Product: War and Pre-War.

PERSONAL SAVINGS

Theoretically, personal savings are a mixture of workers' and salary earners' savings, and of the savings of capitalists (dividend receivers, non-corporate enterprises including agriculture, and also rentiers). With regard to the first it is very plausible to assume that the average ratio saved out of their income will be at least the same as in the fairly prosperous decade 1919—1928. With regard to capitalists we must consider on the one hand the influence of increased taxation, on the other hand the influence of an increased rate of profit (gross of taxation). The latter will be undoubtedly a strong factor with dividend receivers, but also non-corporate enterprise including the farmers will be influenced by high returns on their capital in the period immediately following the transition. We can assume that this factor will at least offset the effects of increased personal income tax; in other words, the capitalist incomes dealt with here, *net* of taxation, will also be at least as high, in relation to capital as in the 'twenties. We may then assume, for all personal savings, at least the same average propensity to save as obtained in the twenties. This works out as follows :—

	Average of 1919—1928
Net Capital Formation	7.8 billions
minus public construction (*net* value)	1.4 ,,
Private Net Capital Formation	6.4 billions
plus Government deficits[1]	0.5 ,,
plus increase in consumers credit[2]	0.5 ,,
minus corporate saving	1.0 ,,
Personal Saving	$6.4 billions

This figure of personal saving must be related to the disposable personal income in 1919—1928. National income of $71.9 billions (Kuznets), minus corporate savings, minus personal taxes (approximately $2 billions) gives a disposable personal income of $69 billions in 1919—1928. The average ratio of saving out of personal income was therefore 9.3%.

In the period immediately following the transition, the national income, according to the assumptions of my former article, would be at the level of 1943, when disposable personal income was $125 billions. But as personal taxation will be reduced after the war, the disposable income corresponding to the same level of national income will be higher, say $130 billions. With a saving ratio of 9.3%, the personal saving would then be about $12 billions (at 1943 prices).[1]

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[1] *Temporary National Economic Committee, Monograph No. 37.* Oscar L. Altman : Saving, Investment and National Income, p. 124.

[2] *Ibid.*

4. We obtain then an estimate of total net savings in the immediate post-transition period of $20 billions ($8 billions corporate saving, and $12 billions personal saving) ; depreciation amounted to $8.2 billions in 1943, but as we have assumed an increase in private fixed capital of $20 to $25 billions during the transition period we have to increase the depreciation by at least $1.5 billions. If a total depreciation of $9.5 billions is added to the net saving, this gives a *gross saving* of $29.5 billions, as compared with my estimate of $32 to $34 billions, in my former article (all estimates in 1943 prices).[1]

I may perhaps say that I intentionally used a rather conservative assumption about the post-war national income. I took account of increased productivity between 1943 and 1948 only to the extent to which it will offset the adverse effects on the real income of a shift from high to low productivity industries. But the technical progress achieved during the war may well lead to a greater increase in productivity and push the national income in the immediate post-transition period above the level of 1943, in which case our saving estimate would have to be adjusted accordingly.

A new objection, however, crops up against my ultimate conclusion. If the rate of profit will be as high as I assume it to be, will not private investment also be at an extraordinary high level, and will not this solve the difficulties automatically ? I think we must be careful here not to fall into the same error for which Mr. Colin Clark reproached me, namely of applying a short-run theory to long-run problems. In the short-run, i.e. in the trade cycle, the rate of investment in plant and equipment is closely related to the rate of profit in the preceding period, so that it can probably be predicted from it. In the long run, however, the *marginal* rate of profit (i.e. the rate to be obtained on new capital ventures) may behave quite differently from the average rate. The most striking illustration for this is the period between the turn of the century and the world war, when, as we have mentioned above, the average rate of profit was falling, while the United States experienced a period of secular boom.

The high rate of profit after the transition period is therefore in itself no reason to expect unusually great investment activity. The best we can say about the long-term development of investment is that it will depend very much on the appearance of innovations which 'absorb' capital. Now, there are specific reasons which should keep us from over-estimating the chances of investment after the transition. There will be a considerable amount of quite new up-to-date equipment, created partly during the war, partly in the transition period. Its existence will make entrepreneurs reluctant to apply further innovations.

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[1] Mr. Colin Clark's estimate of net savings of $10.5 billions is in terms of 1925—34 prices. Using Kuznets' price deflator for the national income (which closely resembles the cost of living index of the Department of Labour in the period before the war) and his estimate of the rise in cost of living and prices of private investment goods during the war (see *N.B.E.R. Occasional Paper*, No. 17), we may estimate that prices of consumption goods and private investment goods in 1943 were about 114% of 1925—34. Mr. Clark's estimate of net saving is therefore approximately $12 billions in 1943 prices, as compared with my present estimate of £20 billions.

At the same time, the fact that much of the capital in existence will be new, means that the mere process of re-investment of depreciation quotas will *enlarge the capacity* of the capital. This factor necessarily restricts the possibilities of new (net) investment.

It is thus likely that the *marginal rate* of profit will be fairly steeply falling. As a tentative guess I should say that investment in producers' equipment is not likely to exceed the level of 1929 even at the beginning of the post-transition period.

As far as construction is concerned, the most important consideration will be the building cycle. The last trough of this cycle fell in about 1934. The length of the *residential* building cycle is 18 to 19 years, the *non-residential* cycle has about the same average length, but with greater irregularity.[1] The residential cycle should have reached its peak in 1943 or thereabouts, but owing to the interruption of residential building during the war it is fairly certain that the turning point of the cycle will only be reached in, or after, the transition period. We must, therefore, count with a fairly high level of residential building. For non-residential building the position seems to me rather different ; factory building has not been interrupted during the war, and considerable new capacity has been created, so that a very quick decline of this type of construction immediately after the transition period is likely.

Investment in producers' equipment and non-residential construction in 1929 was $12 billions, that is $14 billions in 1943 prices. If we accept Mr. A. Smithies'[2] estimate of post-war residential building of $6 billions, the total investment would amount to $20 billions. Mr. Smithies puts plant and equipment expenditure at $10 to $15 billions,[3] which would give together with residential building a total of $16 to 21 billions. (As I anticipate an early decline in non-residential building, I think that the upper limit of this estimate is rather too high.) On this basis we should be left with a gap between savings and private investment of $8.5 to $13.5 billions, to be filled by Government deficits and/or export surpluses. In my former article I put this figure at $10 to $15 billions. Although all assumptions about investment are admittedly hazy, I have not been convinced so far that I have *substantially* over-estimated the difficulties in the way of achieving full employment in the U.S.

It should be stressed that the preceding estimates of saving refer to the period immediately following the transition. What will happen later depends on the Administration's employment policy. If full employment is obtained by deficit spending, the rate of profit is nevertheless bound to decline very soon, because its level in the immediate post-transition period will be due only to high use of capacity and with the inevitable increase in productive capacity it will fall again. This will affect the rate of saving, but it will have an even stronger effect on investment, because the marginal rate of profit will then be brought down to very low levels. In addition, the building cycle will reach its low probably in the early 'fifties. A re-establishment of the equilibrium between private investment and saving is therefore not to be hoped for.

J. STEINDL.

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[1] See Clarence D. Long, Jnr.: Long Cycles in the Building Industry 1856—1935. *Quarterly Journal of Economics*, May 1939.

[2] Arthur Smithies : Forecasting Post-War Demand. *Econometrica* January 1945, p. 10.

[3] *Ibid.*

Mr. C. Clark, so far as I understand him, deprecates pessimism about the chances of full employment in the United States on the ground that past experience has shown that in the long run the propensity to consume adjusts itself to the increase in real income. Hence the deflationary ' gap ' which is likely to open in the United States after the war will, in his view, be much smaller than recent estimates have put it. The probable increase in Government expenditure on armaments and social services (or rather the taxation required to meet it) together with private investment and an export surplus might therefore provide a sufficient balancing force to secure a high level of employment.

Dr. Steindl has given an exhaustive answer to Mr. Clark's ' long period ' estimate of savings in the United States. But the further question has to be asked whether *in this context* the concept of ' long-run' has any sensible meaning. It seems unwarranted to identify a given national income due to higher productivity and lower employment with an equal national income which results from lower productivity and higher employment and to assume that the changes in the relationship between savings and income actually observed over a long period will continue i.e. to extrapolate trend values over long periods. The reactions of the economic system to given stimuli, the distribution of the national income etc., will all be different in the two cases.

The fact that the savings schedule has in the past been observed to shift downwards does not mean that it will continue to do so, unless we assume that average national income over subsequent business cycles will continue to grow. This, however, depends on whether investment (which is influenced partly by long-term factors such as the growth of technical knowledge etc., partly by short-term ones including the level of Government loan expenditure) will be sufficient to offset savings continuously and thus establish full (or at least a high level of) employment. But savings in the short run will be determined—except for Government re-distributive taxation—exclusively by short-term factors. Should national income remain for some time above the average level (over any future business cycle), expected on the basis of past experience, then people might be expected to adjust themselves to their higher real income and adopt permanently a higher standard of life. In that case the schedule of savings in terms of income will shift downwards to the left of the revised estimate of the expected average (national) income. Should a fall in the national income occur afterwards, savings will be lower at each lower level of realised national income than they would have been had the previous persistence of a high national income not induced people to change their mode of life and to increase their standard. They will then dissave in that case to defend their new standard of life. Should the national income after the fall come to stay for a considerable period on the lower level, the savings schedule will move upwards : business reserves will get exhausted and individuals will revise their standard of life as they get accustomed to 'bad years.' The new schedule will then move upwards.

Mr. Clark's analysis is thus based –implicitly—on the assumption that firms and individuals will regard the full employment national income achieved during the war (and possibly for a short transitional period) as 'normal' and accordingly increase their standard of life and (relatively) lower their savings schedule.

Is this a reasonable hypothesis? The distrust, prevalent in the United States, of the ability of the Government to maintain employment has already influenced savings. People do not regard the full employment achieved in war as 'normal' and do not adjust their expectations and their propensity to save to the war situation but rather to their pre-war experience. As long as the war lasts and inflation is incompletely controlled this is all to the good. But the unfavourable implications on post-war international problems should be recognised. Unless the United States Government succeeds in pursuing a domestic policy appropriate to the increase in U.S. productivity during the war, and in persuading the business community that the change from 'orthodox' financial principles is neither 'unsound' nor 'revolutionary,' the incomplete recovery of the post-Great Depression period in the United States is likely to remain the 'long-run' pattern of economic evolution.

> The 'adaptation' of the propensity to consume to a higher level of national income cannot take place because the 'high national income' will not have materialised: the incipient boom will break and savings as schedule of national income will then shift upwards rather than downwards because of the increase in uncertainty and the desire of corporations and individuals to safeguard themselves.

All that Mr. Clark's observations might prove is that *if* the Government (or 'long-run' factors influencing the level of investment) did succeed in 'priming the pump,' the amount of pump priming required will *ceteris paribus* subsequently fall. Unfortunately in a dynamic economy such as the United States the other 'things' cannot be expected to remain the same. The national income, savings and the 'gap' would grow even faster if full employment were maintained (unless most of the 'gap' is closed by measures decreasing savings) and the problem of how to fill the gap will still remain with us as outlets for profitable investment become more and more exhausted.

Business cycles consist of temporary breakdowns due to the nature of the economic system. Until we have eliminated these breakdowns the 'trend' will be determined by them. Who in the 1920's would have predicted by correlating past statistical data that U.S. national income would never approach in the succeeding decade the peak reached in 1929? We have suffered enough, in all conscience, from 'economic laws.' Let us beware lest 'econometric laws' based on such insufficient evidence should have the same dismal influence.

T. BALOGH.

SALES OF GROCERIES IN 1943 AND 1944.

This is the fourth time that we are in a position to present an annual survey of the average sales of groceries in towns, since 1940. As in previous years, our sample is based on the purchases of approximately two million customers per week, in shops specialising in these articles of food and catering mainly for people of the working class. For the first two years—1940 and 1941—we obtained our samples for one week per month. Since 1942 we have been supplied with the complete data of turnover for each whole year. Owing to the system of specific rationing of essential foods and, in particular, to the regulation that a customer must register with the same shop for all the fats together—butter, margarine, and cooking fat—and, in the case of sugar and jam, with the same shop for both these foods, it is possible to obtain a fairly precise idea of the average number of customers of the shops of our sample. The figure lies always in the neighbourhood of two millions a week, although it shows definite fluctuations, being lowest during the first months after re-registration, which now takes place annually in July, then gradually rising for some months, and afterwards remaining fairly steady.[1] These figures relate to the customers who present their ration books for the purchases of fats, sugar, and jam. The number of customers for bacon appears to be some 10 per cent higher, and that for tea nearly 20 per cent lower. When, however, we refer in this present paper[2] to weekly purchases per person, we make the assumption that the average number of fat and sugar rations sold corresponds to the number of weekly average purchases of *all* the foods sold by the shops of our sample. We thus underestimate the average sales per person of tea and, also, eggs in shell, and overestimate those of bacon. The figures of average consumption of bacon in our Tables are further inflated through the inclusion of bacon trimmings in the data of total quantities sold. With the exception of tea, eggs, and bacon, our figures of purchases—or sales—per person per week may be taken to represent satisfactory averages of actual sales per customer.

In Table I we give the average sales per person per week of the main groceries for four half-yearly periods, from January 1943 to January 1945. So as not to break up a four-weekly rationing period we have subdivided each year into unequal halves, the first half comprising 28 weeks and the second 24 weeks. The cut occurs in July, at the point when the new rationing year begins and when the customer is given the option of registering for groceries with a different shop.

The data in Table I call for but few comments. There are first the irregularities already referred to in the figures relating to tea, bacon, and eggs in shell. For eggs in shell, an addition of about 10 per cent would probably be necessary to allow for the proportion of people that keep hens or buy their eggs from milkmen, greengrocers, or chicken farmers. As to tea, some 20 per cent of the customers for fats and sugar appear to get it from specialist shops or greengrocers, who as a rule keep the most popular brands in stock. The quantities of bacon ' per person'

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[1] It seems, therefore, as though transfers of customers in the early part of a rationing year are in favour of the specialist shops.

[2] As in all our previous surveys dealing with the same subject.

TABLE I

Purchases of Groceries per Person[1] *per Week*

	1943		1943-44		1944		1944-45	
	Jan. 11—July 25		July 26—Jan. 9		Jan. 10—July 23		July 24—Jan. 7	
	Quantity[2]	*Prices per* ℔[3] *d.*	Quantity[2]	*Prices per* ℔[3] *d.*	Quantity[2]	*Prices per* ℔[3] *d.*	Quantity[2]	*Prices per* ℔[3] *d.*
(*a*) *Fats:*								
Butter	2.0	*20*	2.0	*2.0*	2.0	*20*	2.0	*20*
Margarine ..	3.7	*9*	3.5	*9*	3.5	*9*	3.5	*9*
Lard	1.8	*9*	1.7	*9*	1.7	*9*	1.7	*9*
(*b*) *Protein Foods:*								
Bacon	4.9[4]	*21¼*	4.8[4]	*21¼*	4.9[4]	*21*	5.4[4]	*20¾*
Ham	—[5]	*44¾*	—[5]	*51*	0.4	*26¾*	0.3	*26*
Cooked Meat ..	1.2	*23¾*	1.3	*24*	1.5	*24*	1.5	*24*
Sausages ..	2.0	*13¼*	2.0	*13¼*	2.2	*13¼*	2.0	*14¾*
Poultry & Rabbits	0.1	*22¼*	0.2	*21¾*	0.1	*22½*	0.2	*21*
Eggs, shell ..	0.8	*2*	0.3	*2*	0.7	*2*	0.3	*2*
Ditto, dried ..	0.8	*1¾*	1.1	*1¼*	1.1	*1¼*	1.1	*1¼*
Cheese[6]	3.6	*13*	3.1	*13*	2.6	*13*	2.5	*13*
(*c*) *Carbohydrate Foods:*								
Sugar	9.1	*3*	8.9	*3¾*	9.0	*4*	9.5	*4*
Jam[7]	3.1	*12*	4.0	*11¾*	3.2	*11¾*	2.6	*12*
Cake	2.0	*12¼*	1.8	*13¼*	1.8	*13½*	1.6	*14½*
Biscuits	1.7	*12¼*	1.0	*12½*	1.3	*12¾*	1.6	12½
Flour	4.2	*2¾*	4.3	*2¾*	4.2	*2¾*	4.1	*3*
(*d*) *Tea*	1.5	*40¾*	1.4	*41½*	1.4	*41¾*	1.3	*42*

[1] The number of persons has been assumed as given by the weekly average of ration cards presented for the purchase of fats and sugar.

[2] Expressed in *ounces*, except in the case of eggs (in shell and dried), which are given in *numbers*.

[3] Eggs : per egg.

[4] Including trimmings.

[5] Less than one twentieth of an ounce.

[6] The quantities stated include all special rations.

[7] Excluding fruit curd and mince meat.

given in Table I may be too high by 20 per cent, 10 per cent due to the fact that the sales assumed by us as going to 100 persons actually go to 110, and the other 10 per cent resulting from the inclusion of trimmings into the figures of total turnover. This latter also affects the price of bacon as shown by us. 'Trimmings' are mostly wastage, and the prices of bacon given in our Table must be raised by nearly 10 per cent in order to obtain the average price for rationed bacon in the shops of our sample. These points should also be borne in mind when considering Table II, where the sales of groceries per person per week in May—June 1944 are compared with the purchases of the same kinds of groceries as ascertained from 226 household accounts collected by the Institute of Statistics.[1]

To return to Table I : The steep fall in the price of ham is the result of the inclusion under this heading of cheap unrationed bacon, which was made available by the Ministry of Food in Spring 1944. From July 1944, the meat content of pork sausages was increased from 37½ per cent to 50 per cent and the price per lb. raised by 1½ pence. The price of a packet of dried eggs—equivalent to 12 eggs in shell—was reduced from 1 shilling 9 pence to 1 shilling 3 pence by the end of June 1943. The price of sugar went up by a penny a lb. on September 19, 1943; this explains the average price of 3¾ pence for sugar during the second half of 1943.

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[1] These accounts are discussed in detail in the BULLETIN Vol. 7, Nos. 2 and 3.

In Table II, a comparison is made between the sales of groceries revealed by our large sample of shops and the purchases of the same kinds of groceries as stated by the 226 families, comprising 1,064 persons, that supplied household accounts to the Institute of Statistics in June 1944. Certain foods that are counted by us as 'groceries'—

TABLE II

Purchases of Groceries in June 1944
per Person per Week

	Grocery Sales, 29. V.—25. VI.			226 Household Accounts		
	Quantity[1]	*Prices*[1] *d.*	*Outlay* *d.*	*Quantity*[1]	*Prices*[1] *d.*	*Outlay* *d.*
(*a*) *Fats:*			**5.5**			**5.9**
Butter	2.0	*20*	*2.5*	2.0	*20*	*2.5*
Margarine	3.5	*9*	*2.0*	4.0	*9*	*2.3*
Lard	1.7	*9*	*1.0*	2.0	*9*	*1.1*
(*b*) *Protein Foods:*			**17.5**			**18.2**
Bacon	5.1[2]	*20¾*	*6.6*	3.8	*24¾*	*5.9*
Ham[3]	1.0	*25¾*	*1.6*	1.9	*27½*	*3.2*
Cooked Meat	1.5	*24¾*	*2.3*			
Sausages	2.2	*13½*	*1.8*	3.7	*13¾*	*3.1*
Poultry and Rabbits	—[4]	*26¾*	—	—	—	*0.2*
Eggs, shell	0.9	*2*	*1.7*	1.0	*2*	*2.0*
Ditto, dried	0.9	*1¼*	*1.1*	1.3	*1¼*	*1.6*
Cheese[5]	2.2	*13*	*1.8*	2.1	*13*	*1.7*
Tinned milk	—	—	*0.6*	0.1	—	*0.5*
(*c*) *Carbohydrate Foods:*			**8.3**			**14.9**
Sugar	9.0	*4*	*2.3*	8.5	*4*	*2.1*
Jam	3.8	*11½*	*2.7*	5.3	*12½*	*4.1*
Cake	1.8	*13½*	*1.5*	8.0[6]	*11¾*[6]	*5.9*[6]
Biscuits	1.4	*12½*	*1.1*	1.4	*14*	*1.2*
Flour	3.9	*2¾*	*0.7*	7.7	*3¼*	*1.6*
(*d*) *Tea:*	1.3	*41¾*	**3.6**	1.7	*37½*	**4.0**
(*e*) *Sundries:*[7]			**12.9**			**13.6**
(*a*)—(*e*)			**47.8**			**56.6**

[1] Expressed in *ounces*, except in the case of eggs (in shell and dried), which are given in *numbers*. Prices are expressed in pence per lb., except for eggs.

[2] Including trimmings.

[3] Including cheap unrationed bacon.

[4] Less than one twentieth of an ounce.

[5] Including all special rations.

[6] Including buns.

[7] Including tinned foods (meat, fish, vegetables, fruit, soup), dried legumes, dried fruit, household milk, cocoa, syrup, honey, rolled oats and oatmeal, semolina, rice, maccaroni, breakfast cereals, fancy foods, and condiments.

sausages, cake, and flour—do not, strictly speaking, belong to that category, and are bought largely from other than grocery shops, so that if we only consider the turnover of such shops we severely underestimate the total consumption of these foods. It will be seen that for sausages the household accounts give a figure over 50 per cent higher than does the sample of grocery shops, while for flour the difference is nearly 100 per cent. The figures of average consumption of cake shown in the household accounts, of 8 ounces, as against 1.8 ounces sold by the grocery shops, includes the consumption of buns, scones, etc., in fact, any kind of baker's ware except bread and bread rolls.

Apart from these differences in the two sets of data, which might be termed *technical*, there are also *structural* differences inherent in the compilation of the two samples. The sample obtained from the grocery shops refers to the various types of holders of ration books—single persons, groups of adults, childless couples, and families with young children—while the 226 household accounts were collected from one particular type of family only, *viz.* working class households with at least one dependent child at home and no boarders. This may largely account for the differences in the average figures of consumption of fats,[1] dried eggs, and jam, which are higher for the household accounts than for the sample of grocery shops. In particular, it seems probable that single persons living in furnished lodgings do not always take up their full rations of certain foods, partly because they have few or no conveniences for cooking. As regards tea it should be noticed that although the ration is 2 ounces per person per week, average consumption must fall below this figure since children under 6 years old do not receive any allowance of tea.

In spite of the differences inherent in the different methods of sampling there is some amount of agreement in the two sets of figures. Perhaps particularly striking, because of the large variety of foods included, is the ' sundries ' group. A few of the foods in this group will, of course, be obtained from other than grocery shops—butchers', fishmongers', and greengrocers'; but on the average we should expect the expenditure in such shops on tinned foods, condiments, cocoa, etc., to represent only a small fraction of the outlay. For our two samples the difference between the sales of the grocery shops and the purchases by the working class households is ¾ pence, or about 5 per cent of the total outlay on ' sundries.'

The weekly expenditure per person on the several food groups as shown in our half-yearly surveys of grocery sales is set out in Table III. Here again, the figures represent the average sales per person buying fats, and sugar and jam, at these shops, and the qualifications mentioned above should be remembered in reading the figures. No adjustments, however, are required when comparing the changes from one period to another ; the relative position is reliable as the figures stand, for any possible error, when different periods are compared, could only be a fraction of a farthing. A definite upward trend is revealed in the

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[1] The total weekly fat ration per person is 8 ounces, of which 2 ounces may be taken in the form of butter and 2 ounces must be taken in the form of cooking fat or lard.

TABLE III

Weekly Expenditure on Various Types of Groceries

	1943 11.1—25.7	1943-4 26.7—9.1	1944 10.1—23.7	1944-5 24.7—7.1
	d.	d.	d.	d.
(*a*) Fats	5½	5½	5½	5½
(*b*) Protein Foods[1]	16¾	15½	17	16½
(*c*) Carbohydrate Foods	7½	8	7½	7¾
(*d*) Tea	3¾	3½	3½	3½
(*e*) Sundries[2]	10¾	11¾	12½	13
(*a*)—(*e*)	44¼	44¼	46	46¼

[1] Including expenditure on various kinds of tinned milk, but excluding expenditure on Household milk, which is counted under ' sundries.'

[2] For foods included in this group see Table II, footnote 7.

' sundries ' group, which, it should be borne in mind, includes all the foods rationed on ' points,' except sliced cooked meat and biscuits, the former belonging in our tabulations to the group of ' protein foods,' and the latter to that of ' carbohydrate foods.' We had already occasion, in our survey of household accounts in June 1941,[1] to point out that there seemed to have developed some tendency of ' spreading ' the ' points ' so as to make the most of them, and that, in consequence, the total outlay on these foods by working class households had risen from 1943 to 1944. The same tendency can now be observed in the figures of our grocery sample. Some of the increase since 1944 may be attributed to the inclusion of imported tinned marmalade in the ' points' foods since April 3, 1944 ; previous to that date it was grouped with jam and had been rationed specifically.

Since April 1944, therefore, people have been able to supplement their jam ration by buying marmalade on ' points.' It is impossible to say whether or not this has affected the demand for jam, as four weeks later the jam ration was doubled for four consecutive periods, with an option to buy half a pound of sugar in place of each pound of jam. From our figures in Table IV relating to the last four months of 1944 it appears that there was a decline in the demand for jam, as compared with 1943 ; by the end of 1944 only about 92 per cent of the combined ration of sugar and jam was taken up. It will, however, be seen from Table IV that whenever the sugar ration was down to 8 ounces with no option to add to it in lieu of jam, the full ration of sugar was bought by every customer. It seems possible that when sugar is exchangeable for jam, this fact is not always realized by the housewife and that, consequently, the effective average demand for sugar falls short of the actual demand that could be satisfied under the rationing regulations.

Table IV also gives the purchases of dried eggs and eggs in shell, and compares them with the allowances of dried eggs. These allowances are somewhat underestimated by us since they are not corrected for the double rations available to children under 6 years old and expectant mothers. Yet even so the actual purchases represent only a fraction of the allowances, and the quantities bought are related not to the rations of dried eggs but to the amount of shell eggs available. Of these

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[1] BULLETIN Vol. 7, No. 3.

TABLE IV

Weekly Purchases per Person of Eggs, Sugar, and Jam

4-Weekly Period beginning:	Eggs			Sugar and Jam			
	Dried *allowed*	Dried bought	Shell bought	Sugar *allowed*	Jam *allowed*	Sugar bought	Jam bought
1943	*No.*	No.	No.	*oz.*	*oz.*	oz.	oz.
Jan. 10	*3*[1]	1.1	0.4	*8*[4]	*4*	8.0	3.6
Feb. 8	*3*	0.8	0.5	*8*	*4*	8.0	3.7
March 8	*3*	0.8	0.8	*8*	*4*	8.0	3.7
April 5	*3*	0.6	1.1	*8*	*4 (or 4oz. sugar)*	9.3	2.6
May 3	*3*	0.6	1.1	*8*	*4 (ditto)*	8.9	2.6
May 31	*3*	0.7	0.9	*8*	*4 (ditto)*	9.1	2.7
June 28	*3*[2]	1.0	0.6	*12*	*4 (ditto)*	12.2	2.6
July 26	*3*	0.9	0.5	*8*	*4 (ditto)*	9.0	2.6
August 23	*3*	0.8	0.4	*8*	*4 (ditto)*	9.5	2.3
Sept. 20	*3*	1.1[3]	0.3	*8*[5]	*8*	8.0	6.0
Oct. 18	*3*	1.1	0.3	*8*	*8*	8.0	6.3
Nov. 15	*3*	1.2	0.2	*8*	*4 (plus 4 oz. jam or sugar)*	9.9	4.0
Dec. 13	*6*	1.6	0.3	*8*	*4 (or 4 oz. sugar)*	8.9	2.7
1944							
Jan. 10	*6*	1.4	0.3	*8*	*4 (ditto)*	8.9	2.7
Feb. 7	*6*	1.4	0.5	*8*	*4 (ditto)*	8.9	2.6
March 6	*decontrolled*	1.2	0.7	*8*	*4 (ditto)*	8.9	2.6
April 3[7]	*3*[7]	1.1	0.9	*8*	*4 (ditto)*	8.9	3.0[6]
May 1	*3*	1.0	1.0	*8*	*8 (or 4 oz. sugar)*	9.2	4.1
May 29	*3*	0.9	0.9	*8*	*8 (ditto)*	8.9	3.8
June 26	*3*	0.9	0.7	*8*	*8 (ditto)*	9.4	3.7
July 24	*3*	0.9	0.5	*12*	*8 (ditto)*	11.4	3.7
Aug. 21	*3*	1.0	0.4	*8*	*4 (or 4 oz. sugar)*	9.4	2.5
Sept. 18	*3*	1.1	0.3	*8*	*4 (ditto)*	8.9	2.3
October 16	*6*	1.2	0.3	*8*	*4 (ditto)*	8.9	2.4
Nov. 13	*6*	1.2	0.3	*8*	*4 (ditto)*	8.4	2.2
Dec. 11	*6*	1.2	0.3	*10*	*4 (ditto)*	10.0	2.3

[1] One packet (equivalent to 12 eggs) 1/9.
[2] Price per packet reduced from 1/9 to 1/3.
[3] Intensified campaign by Ministry of Food for use of dried eggs.
[4] Price per lb. 3d.
[5] Price per lb. raised from 3d. to 4d.
[6] Imported tinned marmalade on points (2lb.=8 points).
[7] Sales unrestricted during last week of this and each subsequent rationing period.

TABLE V

Weekly Purchases per Person of Cheese

	allowed[1]	bought[2]
	oz.	oz.
Jan. 10—Feb. 7, 1943	*6*	4.5
Feb. 8—May 2, 1943	*4*	3.8
May 3—July 25, 1943	*3*	3.2
July 26—April 2, 1944	*3*	3.1
April 3—Oct. 15, 1944	*2*	2.3
Oct. 16—Jan. 7, 1945	*3*	2.8

[1] Ordinary ration. [2] Including special rations.

people take up as much as they can get, while dried eggs are clearly considered an emergency food that is bought by many only as a stopgap

The figures in Table V show the changes in the cheese ration and the average purchases during each rationing period, which often covers many months during which the ration remained the same. The actual weekly purchases per person during the four-weekly rationing cycle[1] within each of these periods differ in all instances by less than a tenth of an ounce from the average shown for the whole period. It is worth mentioning this fact, as it makes the relation between rationing and purchases the more striking : when the cheese ration was reduced from 4 to 3 and from 3 to 2 ounces, every customer appears to have bought the full ration, or nearly the full ration. The figures of purchases in Table V are slightly above this because they include all special allowances for heavy workers and vegetarians. But when the ration was raised, in October 1944, from 2 ounces to 3 ounces, consumption fell short of the possible maximum ; assuming this to be 3.25 ounces, if the special rations are included, consumption lagged behind by about 14 per cent. Possibly the somewhat greater variety of foods available in 1944, as compared with 1943, had some effect on the demand for cheese. But the differences in average demand in relation to the weekly ration of 3 ounces, at different periods, may also indicate the formation of dietary habits—perhaps only transitory ones—as a result of ' planned' supplies. According to Sir John Boyd Orr's researches in the early 'thirties,[2] when he investigated 1,152 family budgets with a range of food expenditure per person per week from 4 shillings to 14 shillings, giving an average expenditure of 9 shillings, average domestic consumption of cheese per person per week was 2.6 ounces, although for his central group, representing 40 per cent of the families and also having an an average expenditure of 9 shillings, it was 3 ounces. The budgets used on that occasion were spread over the years from 1932 to 1935 ; from then to 1944 the cost of food according to the Ministry of Labour Index, has risen by a little over one-third, and an average outlay of 9 shillings during those four years would thus correspond to an outlay of about 12 shillings 3 pence in 1944.

In Table VI average outlay and nutritional values of the main foods sold by the grocery shops are expressed as index numbers. There are also shown the proportions of nutrients and expenditure represented by the several food groups in relation to the corresponding totals, and, further, the absolute nutritional values purchased in the form of these groceries and their cost, for the four half-yearly periods covered by this survey. From these latter figures it will be seen that outlay, calorific value, and content of vegetable protein of these foods have changed little, but that there occurred a distinct decline in the content of animal protein, this being due to the reduction of the allowance of cheese, which is a good and cheap source of animal protein. The effects of these cuts in the cheese ration, and of the increased supply of bacon,[3] which is essentially a calorific food, stand out very distinctly in the indices of group (*b*) in Table VI. The reduction in the protein content of the group of carbohydrate foods resulted from the decrease in the supply of biscuits and cake, while the increases in outlay were brought about by the rise in the price of sugar, and, in the second half of 1943, by the

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[1] Since a person is permitted to buy the whole cheese ration for four weeks during any week of that cycle, the weekly average must, of course, be derived from the turnover during the complete cycle of four weeks.

[2] *Food, Health and Income* (London, 1936).

[3] From July 23 to September 16, 1944, the weekly ration was raised from 4 ounces to 6 ounces.

TABLE VI *Nutritional Values and Expenditure*

		Indices of (1st Half of 1943=100)		% of Total		
	Calories	Protein	Outlay	Calories	Protein	Outlay
(*a*) *Fats:*						
1943 1st Half	*100*	—	*100*	31.4	—	18.9
1943 2nd Half	96	—	96	31.1	—	18.6
1944 1st Half	96	—	96	31.0	—	17.9
1944 2nd Half	96	—	96	30.8	—	18.2
(*b*) *Protein Foods:*[1]						
1943 1st Half	*100*	*100*	*100*	29.0	74.5	55.9
1943 2nd Half	95	94	94	28.5	74.9	53.8
1944 1st Half	99	95	102	29.4	74.8	56.2
1944 2nd Half	99	91	99	29.4	74.0	55.4
(*c*) *Carbohydrate Foods:*						
1943 1st Half	*100*	*100*	*100*	39.6	25.5	25.2
1943 2nd Half	99	91	107	40.4	25.1	27.6
1944 1st Half	98	93	104	39.6	25.2	25.9
1944 2nd Half	99	93	104	39.8	26.0	26.4
Groups (*a*)—(*c*):						
1943 1st Half	*100*	*100*	*100*	100.0	100.0	100.0
1943 2nd Half	97	93	98	100.0	100.0	100.0
1944 1st Half	97	95	101	100.0	100.0	100.0
1944 2nd Half	98	91	100	100.0	100.0	100.0

Nutritional Values Bought per Person per Week

	Calories	Protein (grammes) total	animal[2]	Outlay d.
Groups (*a*)—(*c*):				
1943 1st Half	5600	91	68	29¾
1943 2nd Half	5420	85	63	29
1944 1st Half	5450	86	64	30
1944 2nd Half	5480	83	61	29¾

[1] Excluding Household milk, but including all other tinned milk.

[2] Derived from the foods in Group (*b*).

larger purchases of jam. The fall in the protein content of this food group is, however, of less nutritional importance than that of group (*b*), since the protein of biscuits and cake is essentially of vegetable origin and could be replaced very cheaply by a small quantity of bread or flour.

It is not possible to estimate with any precision the nutritional contents of the foods embraced by the ' sundries ' group. If we give the index figure 100 to the total expenditure on the specific groups (*a*), (*b*), and (*c*), for each of the four half years, the outlay on 'sundries' rose from 36, in the first half of 1943, to nearly 44 in the second half of 1944. It may be that for calories and vegetable protein the index figures can be taken as nearly similar to those of the outlay on the ' sundries ' group ; but no such assumption can be made as regards the content of animal protein. The somewhat larger purchases of tinned meat, fish, etc., certainly brought about a rise also in that figure, but the trend is likely to have been decidedly less steep. We may, perhaps, assume the index of animal protein of the ' sundries ' group for these two years to lie between 30 and 33, taking the animal protein of groups (*a*), (*b*) and (*c*), together as 100. On the basis of these data it would appear that the sales of groceries per person per week in 1943 and 1944 supplied on the average the basic requirements of calories and animal protein for approximately three days.

T. SCHULZ.

TAX INCENTIVES FOR EXPORT

For a number of years after the war there will be a buoyant and seemingly insatiable home demand for the products of British Industry. Controls will be needed, not to avert deflation, but to prevent inflation. Unemployment will be due, if it arises, not to a general deficiency of demand, but to technical bottlenecks in the conversion of industry from wartime to peacetime purposes.

The buoyancy of home demand creates a special problem in connection with exports. To sell at home will be easier and less risky than to sell abroad. The home market will take almost anything, while oversea markets, possessing access to alternative sources of supply, may be far more exacting in matters of price, delivery dates, quality, and design. While the home market is likely to continue to be a sellers' market, oversea markets may quickly become, what they have been before, markets in which the buyer calls the tune.

What are to be the incentives for British industry to make the export effort which is required in the national interest ? There may be some, but there cannot be many, firms in this country which are so specialised on export trade that they are immune to the temptations of an insistent home market. There may be others, but again there cannot be many, which are exporters and importers at the same time and which might have a direct interest in earning foreign exchange, provided they are given permission to retain and use such exchange for their own import requirements. Such cases notwithstanding, there is no general private interest in making a special export effort when the home market can take practically all that is offered.

Since the private interest in this case clearly does not co-incide with the national interest, it is incumbent on the State to exercise such indirect or direct control as will safeguard the economic position of the nation.

There are a number of lines along which the Government can exercise powers of positive direct control for the expansion of exports. One is concerted planning action with other Governments, particularly with countries that have specially intensive economic ties with the United Kingdom, as creditors, debtors, suppliers, or in other ways. Another is the use of existing direct controls relating to manpower and materials allocation in a manner which enables firms to produce for the home market only on the condition that they pay adequate attention to the export business. Another one is the interposition of a State wholesaling agency between the home producer and the overseas retailer, which, although not applicable to all types of export articles, may lead for some to great economies in mass production and distribution.

The export problem is so pressing that none of these more direct forms of State control of State enterprise can be safely neglected. Yet even if they are fully used, there will remain a large field to which they are not suitable, and the problem of private incentive will remain. It is not an easy task to create incentives for exports ; but it may be possible, at least, to shield exporters from some of the dis-incentives to risk-taking which are the inevitable feature of a private enterprise system carrying steep progressive taxation. Income tax, National Defence Contribution, and Excess Profits Tax reduce the rewards of entrepreneurial risk-taking. Their marginal incidence is, of course, much more onerous than their average incidence. With income tax at 10/- in the pound, the incentive to risk-taking is halved, since losses have to be borne in full and profits (after income tax) are cut in half.

The question is whether this dis-incentive can be removed from the export business. The suggestion has been made that profits earned in the export trade might be exempted from taxation. Such an exemption, however, may not carry much weight, because profit expectations may in any case be low, and the risk of losses may be a stronger deterrent factor than the hope for profit is an attracting one. The segregation, moreover, of profits earned through export from those earned in the home market would involve some accounting difficulties. Another method might be considered :—

It will in any case be necessary, for some time to come, to ensure that all foreign exchange earned by residents is offered for sale to the Bank of England. A tax exemption certificate might be issued to the seller of ' earned ' foreign exchange, made out to the value of a given percentage of the amount surrendered. Thus, if an exporter sold to the Bank £1,000 worth of foreign exchange, he might receive a certificate showing £200. He would subsequently be entitled to deduct the nominal amount of his certificate from his taxable profits, irrespective of whether such profits had been earned through external or internal business.

The export target for this country may be put at about £1,200 million; if service items are included, the target may be put at about £1,500 million. Twenty per cent of this sum is £300 million. The issue of tax certificates at a 20 per cent ratio would therefore exempt £300 million of profits from taxation. At a standard rate of income tax of 10/0d. in the pound, and neglecting E.P.T., the loss to the Exchequer would amount to something like £150 million, equal to a flat rate subsidy to exports of 10 per cent.

This method of stimulating exports would appear to be considerably superior to most other ' indirect ' methods. It creates no administrative difficulties as long as foreign exchange control is maintained. A subsidy involves the State in collecting substantial amounts of money through the tax system and disbursing them again to private industry. This method amounts simply to an abstention from collecting taxes where taxes would discourage a particularly vital part of economic activity.

A subsidy, moreover, enables the home manufacturer to sell abroad below his cost *plus* normal profit. It does nothing to increase his incentive to assume special risks. Nor is it likely to enable him to earn better profits than are anyhow available in the home market. Tax relief as here suggested, on the other hand, puts the exporter in a privileged position as compared with anyone concentrating solely on the home market. While subsidies would enable him to export with less effort, tax relief induces him to make a greater export effort.

What is the meaning of ' effort ' in this connection ? It would be erroneous to assume that selling goods abroad is simply a matter of quoting low prices or of spending money on adertising, salesmen, and so forth. In the conditions of the post-war world much will depend simply on the outlook and interests of business men—whether they are 'export conscious' or not. Will they devote enough attention to oversea markets, studying the specific requirements of the oversea customer as carefully or even more carefully than they study the requirements of the home market? Will they earmark existing productive capacity for export business and create new capacity in anticipation of success in selling abroad? Will they combine for co-operative selling overseas in export groups; organise showrooms; develop joint organisations for servicing; introduce new products; open new markets; engage in market research, and so forth? Price policy is only one element in the situation and will not be the most important one in the years to come. It is out of these considerations that it is suggested that an additional incentive may be more productive of results than other devices which aim at nothing more than 'undercutting' the price of competitors.

It may be argued, of course, that the tax certificates will command a cash price—even if they are formally non-negotiable—and are therefore indistinguishable from a cash subsidy. If the 'relief ratio' is 20 per cent and the standard rate of income tax is 10/- in the pound, the tax certificates issued against an export valued at £1,000 would be worth the same as £100 tax free or as a profit of £200, subject to tax, earned in the home market. It can be argued that an exporter with taxable total profits of £5,000 could afford to sell exports below cost; to reduce his oversea selling price from, say, £1,200 (taking to represent his costs) to £1,000; the loss thus sustained would reduce his profits to £4,800, and the tax certificate would reduce his taxable profits to £4,600, involving a tax liability of £2,300.

Instead of paying 10/- in the pound on £5,000, leaving him £2,500 net, he would be paying £2,300 out of £4,800, leaving him also £2,500 net. The tax certificates, in other words, would be equivalent to a subsidy which enabled him to sell goods costing £1,200 for £1,000. This argument is arithmetically correct, but has little relevance to the actualities of business. Business men do not normally charge 'what the market will bear,' but make up their prices on the basis of costs *plus* normal profit. If their costs are reduced by a subsidy, they almost automatically lower their prices proportionately. The tax relief method, on the other hand, leaves costs as they are, but increases the keenness of business men to obtain export business. It does not lead to an *automatic* lowering of export prices, although it may lead to the lowering of prices from case to case. Selling below cost continues to appear as selling at a loss, and there is every motive to avoid it. Some business men may calculate in the way demonstrated in the arithmetical example above, but it is unlikely that they will be anything but an exception.

An all-round subsidy, like devaluation, leads, generally speaking, to an automatic reduction in the overseas sales price of all current exports. It thus reduces the foreign exchange proceeds of existing exports in the hope that lower sales prices will bring a more than proportionate expansion in the *volume* of exports. Experience has shown that this hope may not be fulfilled and that the deterioration in the terms of trade may not be overcompensated by the expansion of volume. All-round subsidies or devaluation are therefore often dangerous and costly devices which, instead of reducing the disequilibrium in the trade balance, may actually aggravate it. It would appear that the same objection cannot be raised against the method of export stimulation proposed here. The introduction of such a system would not automatically affect the overseas prices of current exports. If it leads to export sales below home costs, it will do so only with regard to additional business.[1]

The technique here proposed can be applied in a highly flexible way. First of all, the ' relief ratio ' can be varied in course of time. It can be increased when the need for special export efforts is urgent and can be lowered when equilibrium in the balance of trade has been reached. Secondly, it is possible to apply different ' relief ratios ' to different categories of goods. Such differentiation is justified in the case of re-exports or in the case of exports which, although not classified as re-exports, contain an outstandingly high percentage of imported raw materials. Ideally, the tax relief might be given only on the amount of ' value added ' by home labour ; but for reasons of administrative simplicity it would be preferable to neglect minor differences and to give the full tax relief to all exports with an import content of, say, less than seventy per cent. Such simplified treatment is justified by the fact that the risk and difficulty of exporting is not affected by the ' import content ' of the exported good. Thirdly, there might be discrimination with regard to the kind of foreign exchange earned by any given export. This involves wider questions of international currency practice, which cannot be discussed here. It is enough to note that it is possible under this system, for instance, to grant a higher ' relief ratio ' on the surrender of ‘ scarce ’ currencies than on that of ‘ sterling area ’ or ‘ soft ’ currencies.

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[1] The difference might be illustrated in an exaggerated form as follows :—Assume a country has exports worth 800 and imports worth 1,000 units. It requires a 25 per cent expansion of exports to reach equilibrium. This is being attempted through a 25 per cent devaluation of the currency. The immediate effect of devaluation is that the existing exports are sold abroad for 600 units of foreign exchange, thus widening the gap from 200 to 400. But the 25 per cent price reduction leads to an expansion in the volume of exports of, say, 50 per cent, from 600 to 900. There still remains a gap of 100. Not unless the volume of exports rises by 67 per cent will the gap be closed. Such exports, at pre-devaluation prices, would have been worth 1,333 units (167% of 800), which means that the terms of trade have deteriorated by one third. A 67% increase in volume has led to not more than a 25% increase in value. To pay for the marginal 200 import units has required 533 additional export units.

Now assume instead, that the tax relief method is applied, on the basis of a ' relief ratio ' of 25 per cent. The value of the existing exports is likely to remain unchanged. The volume of exports expands, not so much as a result of price sacrifices as of greater entrepreneurial effort, the opening up of new markets or of new lines in old markets. Even if the new business is conducted at prices below costs, the resultant deterioration of the terms of trade is likely to affect only marginal exports, not the whole volume. If all pre-existing exports sold at the old prices and all additional exports sold at 20% below cost, the expansion in the volume of exports necessary to fill the ' gap ' would be 31 per cent, as against 67 per cent in the first example. To pay for the marginal 200 import units would require 250, instead of 533, additional export units.

These are two extreme cases, adduced for the purpose of illustration. In actual practice, the first case might work out somewhat more favourably and the second, somewhat less favourably. Yet there appears to be no reason to doubt that a substantial difference would remain.

While it would appear that there are no great practical difficulties in the administration of such a scheme as far as the Government is concerned, certain complications might arise where there are several firms jointly concerned in a given export deal. Who is to receive the certificates ? In general, that firm should receive them which bears the export risk.[1] Thus if an export merchant places a firm order with a manufacturer, the manufacturer's business is, strictly speaking, home business, and the export merchant, being responsible for obtaining the foreign order and assuming the risks connected therewith, is entitled to receive the certificate. In doubtful cases, the settlement of this question may be left to private arrangement.

It is not suggested that a device such as here outlined will solve the export problem of this country. All that is suggested is that the export problem might be more easily soluble with the help of a device of this kind than without it. Any economic system that relies mainly on private enterprise must take great care to ensure that what is nationally necessary becomes privately profitable. Private enterprise will supply the home market even if the rates of direct taxation remain high. It is easier to maintain such high rates of direct taxation as a prudent fiscal policy might demand, if their discouraging effect on risk-taking in the export field can be minimised.

E. F. SCHUMACHER.

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[1] If the export is arranged by direct State action, there is no case for granting tax relief to the private producer.

ERRATA.

Page 4. For Diagram I read Diagram B.

Page 5. For Diagram II read Diagram A. In Diagram A delete last dot but one on right.

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